

NEW TWO-WINGED FLIES OF THE FAMILY CALLIPHORIDAE FROM CHINA

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The present paper includes four new species and two new genera of muscoid flies from China; one of the species has recently been introduced into California.

Genus CALLIPHORA Robineau-Desvoidy

Calliphora ROBINEAU-DESVOIDY, Myodaires, 1830, p. 433.—VAN DER WULF, Biologia, Dipt., vol. 2, 1896, p. 294.—HOUGH, Ent. News, vol. 10, 1899, p. 65; Zool. Bull., vol. 2, 1899, p. 285.—SHANNON, Insector Ins. Menst., vol. 11, 1923, p. 107; Proc. Ent. Soc. Wash., vol. 28, 1926, p. 134.—MALLOCH, Trans. New Zealand Inst., vol. 55, 1924, p. 640; Proc. Linn. Soc. New South Wales, vol. 52, 1927, p. 303.—BEZZI, Bull. Ent. Research, vol. 17, 1927, p. 240.—LUNDBECK, Dipt. Danica, vol. 7, 1927, p. 149.

CALLIPHORA GRAHAMI, new species

Of the size and appearance of *vomitorea* Linnaeus, but having in both sexes no inner presutural bristle (presutural intraalar of Hough, hindmost sublateral of Shannon), beard wholly black, gray pollen of thorax and abdomen considerably more dense; the male also differs in having the front about three times as wide (0.14 of head width below front ocellus), and the genitalia greatly enlarged and of quite unique form.

The abdomen of the male is short and broad and the shining black genital segments (fig. 1) are very large, the first vertical, the second extending forward more than halfway to the base of the abdomen; first visible sternite short, second longer than usual, third and fourth short, curving downward, the fourth with more dense pile than preceding. Fifth prominent at base and bearing a dense tuft of short spines each side of middle line, not much separated; lobes large and widely divergent, the large median concavity bearing two long parallel lobes of soft structure, their tips turned outward, which are sepa-

rated from the more chitinized main lobes by a deep groove. Outer forceps shining black, giving off a pair of blunt processes at base, which project backward, the remainder long, extending forward and curving downward, of uniform width to tip, which is rounded. Inner forceps rudimentary, narrow, less than half as long as the outer. In repose the closely approximated outer forceps evidently lie in the median groove between the two soft inner lobes of the fifth sternite.

Thoracic chaetotaxy: acrostichal 3, 3; dorsocentral 3, 3; humeral 4; posthumeral 3 (sublateral of Shannon 3); pre-utural 1; notopleural 2; supraalar 3; intraalar 2 (none close behind suture); postalar 2; scutellum with four lateral (apical included), one discal; sternopleural 2, 1.

Wing subhyaline, as in *vomitaria*; basicosta black, subcostal sclerite yellow, bare; third vein with three or four small hairs above and below. Hind calypter brown with white rim.

Length, 8-10 mm.

Described from 62 specimens of both sexes; 34, including type and allotype, were collected at Suifu, Szechuen Province, China, by Rev. D. C. Graham, after whom the species is named; one male from the same collector was collected at the summit of the range of mountains. Washan, same Province; and another male

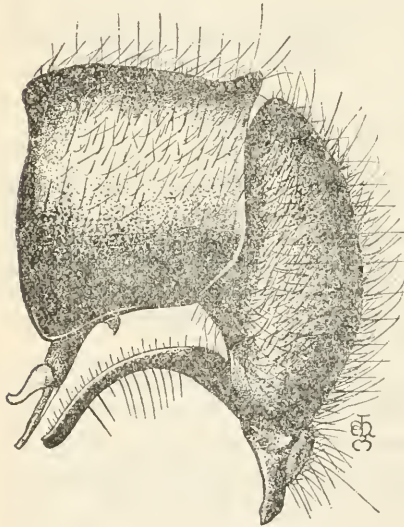


FIGURE 1.—*CALLIPHORA GRAHAMI*, NEW SPECIES. MALE, SIDE VIEW OF GENITAL SEGMENTS (DRAWN BY D. G. HALL)

at Yellow Dragon Gorge near Songpan, in the same Province, was taken by the same collector at an altitude exceeding 12,000 feet. From E. Brunetti were received two males taken at Hang Kow, China, and two females from Hong Kong; while Prof. T. D. A. Cockerell sent a female which he took at Kongaus, Siberia, in August, 1923.

The remaining 29 specimens were received from H. H. Keifer, department of agriculture, California, who sent them in December, 1929, writing that he reared them all from a single batch of eggs that he found on meat at Sacramento, Calif. Thus it appears that the species has lately established itself in the United States. The California specimens are dated June 10, 1929. No other North American specimens are known.

Twenty of the Sacramento paratypes are returned to the California Department of Agriculture.

Type.—Male, Cat. No. 26865, U.S.N.M.

XANTHOTRYXUS, new genus

Near *Pollenia*, from which it differs especially in having the parafacials bare, and the face with a broad keel.

Hypopleural bristles present, postscutellum not developed; propleura and prosternum bare; eyes bare; vibrissae as high above oral margin as in *Pollenia rudis*, but farther apart; facial ridges with only a few setules above vibrissae; palpi normal, proboscis short, with ordinary labella; antennal axis and vibrissal axis about equal in length; frontal bristles reaching only to base of antennae; arista plumose. Thorax with dense deciduous curly pale hair; hind calypters bare, large. Abdomen robust, first sternite pilose, dense hair of dorsum becoming bristlelike apically. Wing with apical crossvein, the first posterior cell ending distinctly before apex; third vein with a few very delicate pale hairs above and below at base; subcostal sclerite with a tuft of yellow hairs; stemvein bare.

Genotype.—*Xanthotryxus mongol*, new species.

XANTHOTRYXUS MONGOL, new species

Black with dense appressed golden deciduous hair on thorax, the abdomen with dense golden pollen covering dorsum and becoming gray underneath.

Male.—Front narrow above, at narrowest hardly wider than distance across hind ocelli, thence rapidly widening and the face widening at same angle; parafrontals, parafacials, and upper part of face golden pollinose, lower face and cheek more gray; frontal stripe triangular, wide anteriorly, brown. Ocellars normal, proclinate, no large verticals nor reclinate frontals. The single row of convergent frontals begins some distance from the anterior ocellus and consists of about 15 bristles. Antennae black, third joint rather slender, twice the second; arista pale except at base, of moderate length, plumose almost to tip. Palpi black. Beard yellow, hairs of cheek black, cheek three-fourths of eye height.

Thoracic chaetotaxy: acrostichal 2, 3; dorsocentral 3, 4; humeral 3 or 4; posthumeral 1 (inner); presutural 1 (so far forward it might be called posthumeral); notopleural 2; supraalar 3; intraalar 2; postalar 2; sternopleural 1, 1; scutellum with 2 lateral, apical of same length. Postalar declivity with large tuft of yellow hairs; hind calypters brown, front ones yellow, the long pile at junction yellow.

Abdomen with suberect dense black hair, third segment with marginal row; fourth segment with irregular bristles and bristly hairs. Genital segments black, rather large, the first with spot of yellow pollen and numerous bristly hairs. Genitalia as figure (fig. 2), the inner forceps slender, as long as outer, united except at extreme tip. Legs black; claws and pulvilli elongated, the latter yellow; middle tibia with one small bristle on outer front side; base of hind coxæ bare behind. Wings brownish, especially along veins, yellowish near base; bend of fourth vein oblique, rounded, thence with slight concavity to costa.

Female.—Front at vertex 0.29 of head width; two verticals, one small reclinate frontal, two proclinate orbitals. Middle tibia with two bristles on outer front side. Claws and puvilli small.

Length, 11–13 mm.

Described from seven males and five females, collected in Szechuen Province, China, by Rev. D. C. Graham; eight were taken at Chuan Chien and four on Mount Omei.

Type.—Male, Cat. No. 29163, U.S.N.M.

XANTHOTREYXUS DRACO, new species

Male.—Like *mongol* except that the pollen of the head is grayish-yellow, not golden; the face has a less distinct carina, the antennae closer together at base, and the genitalia are different. The inner forceps are distinctly separated on about the apical half, and the outer ones have expanded tips, about twice as wide as in *mongol*.

Length, 9 mm.

Described from one male collected at Yellow Dragon Gorge, Szechuen Province, China, by Rev. D. C. Graham, in altitude above 12,000 feet.

Type.—Male, Cat. No. 29164, U.S.N.M.

LISPOPAREA, new genus

Allied to *Pollenia*, but has bare parafacials, vibrissae not so close together, facial carina low and rounded except just between bases of antennae, and bend of fourth vein in form of a gentle curve. The thorax has the same covering of deciduous yellow hair as in *Pollenia*. Differs from *Xanthotryxus* in the course of the fourth vein, and in having the facial carina less prominent. The sole species is pale yellow except mesonotum, and more slender than either of the

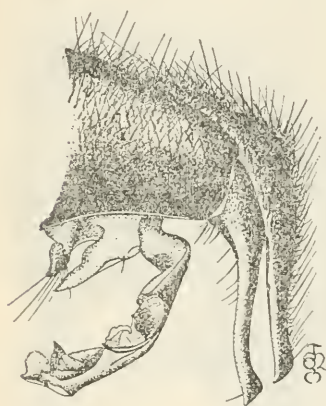


FIGURE 2.—XANTHOTREYXUS MONGOL, NEW SPECIES. MALE, SIDE VIEW OF GENITAL SEGMENTS (DRAWN BY D. G. HALL)

genera mentioned, having a very different appearance. Runs to *Anthracomyia* new genus in Malloch's Key,¹ but that genus has none of the short silky thoracic hair characteristic of *Pollenia*.

Genotype.—*Lispoparea flava*, new species.

LISPOPAREA FLAVA, new species

Male.—Wholly yellow except the following parts: Mesonotum (except narrow sides), metanotum, and apical part of tarsi. Eyes almost contiguous on front, separated by less than width of anterior ocellus, then diverging rapidly to their lower curve; frontal stripe a broad triangle, disappearing at narrow part of front. No verticals, no reclinate frontals. Ocellars merely hairs; frontals beginning far forward, weak, about 10 in number, barely reaching base of antennae; third antennal joint more than twice the second; arista short, plumose to tip. Palpi rather small, proboscis slightly elongate; cheek two-thirds the eye height. Eyes with distinctly larger facets on upper half or more which gradually diminish downward. Head rather dull yellow but not distinctly pollinose.

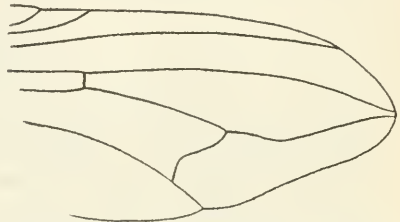


FIGURE 3.—LISPOPAREA FLAVA, NEW SPECIES. APICAL PORTION OF WING (DRAWN BY C. T. GREENE)

Thoracic chaetotaxy: Acrostichal, 1, 1 (?); dorsocentral, 2, 3; humeral, 2; posthumeral, 1; presutural, 1 (far forward as in *Xanthotryxus*); notopleural, 2; supraalar, 2; intraalar, 2; postalar, 2; sternopleural, 1, 1; scutellum with 2 lateral, one equally strong apical. Calypters light yellow. Abdomen wholly pale yellow, subshining, without distinct pollen. Genital segments the same. First segment with marginal bristles only at sides; second, third, and fourth with complete row, no discals. Tarsi gradually brown toward tip. Claws and pulvilli not enlarged; front tibia with one bristle on outer hind side; middle tibia with one on outer front. Wings hyaline with yellow veins; venation as in Figure 3, the fourth vein converging quite gently to third.

Length, 6.6 mm.

Described from one male collected on Mount Omei in Szechuen Province, China, by Rev. D. C. Graham.

Type.—Male, Cat. No. 42878, U.S.N.M.

¹ Proc. Linn. Soc., New South Wales, Vol. 54, 1927, p. 303.